Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Currently amended) An image sensor comprising:

(a) a plurality of pixels arranged in an array of rows and columns;

(b) a color filter pattern spanning at least a portion of the pixels, wherein the color filter pattern forms a plurality of color filter kernels having ~~the same colors~~ at least one color of every color in the color filter pattern in a predetermined arrangement with an identical pattern of colors in each color filter kernel, and wherein the color filter kernels are arranged in at least two different uniformly distributed sets that are correlated with the color filter pattern; and

(c) a mechanism for independent control of ~~controlling~~ an integration time of ~~the different sets of kernels~~ each color filter kernel according to its ~~their~~ spatial location, wherein at least one color filter kernel includes at least one fast pixel having a first integration time and at least one slow pixel having a second integration time, wherein the first integration time is longer than the second integration time and data from at least one slow pixel includes valid signal level information with adequate signal to noise ratio while data from at least one fast pixel does not contain valid signal level information~~the integration time is different for each set of the kernels~~.

2. (Original) The image sensor as in claim 1, wherein the color filter pattern is a Bayer color filter pattern.

3. (Original) The image sensor as in claim 1, wherein the color filter pattern is a 2x2 kernel.

4. (Currently amended) The image sensor as in claim 3, wherein an ~~the~~ integration time pattern is an alternating pattern of two lines at one integration time and adjacent two lines at another ~~a second~~ integration time.

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5.   (Currently amended) The image sensor as in claim 3, wherein the integration time for a first set of 2x2 pixels associated with a first kernel is at a third ~~first~~ integration time, and the integration time of adjacent 2x2 kernels in the same set of two lines at a fourth ~~second~~ integration time.

6.   (Currently amended) The image sensor as in claim 5, wherein an ~~the~~ integration time pattern of adjacent two lines groups is offset by two pixels.

7.   (Cancelled)

8.   (Original) An image sensor comprising:

(a) a plurality of pixels arranged in an array of rows and columns; and

(b) a readout mechanism that provides a series of output signal values associated with a row sync signal with a number of data signal values corresponding to a number of pixels in a row or desired portion of a row; wherein the output signal values have signals that are generated from pixels within at least two physically separate rows within the array.

9.   (Currently amended) A camera comprising:

(a) an image sensor comprising:

(a1) a plurality of pixels arranged in an array of rows and columns;

(b) a color filter pattern spanning at least a portion of the pixels, wherein the color filter pattern forms a plurality of color filter kernels having ~~the same colors~~ at least one color of every color in the color filter pattern in a predetermined arrangement with an identical pattern of colors in each color filter kernel, and wherein the color filter kernels are arranged in at least two different uniformly distributed sets that are correlated with the color filter pattern; and

(c) a mechanism for independent control of ~~controlling~~ an integration time of ~~the different sets of kernels~~each color filter kernel

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according to its ~~their~~ spatial location, wherein <u>at least one color filter kernel</u> <u>includes at least one fast pixel having a first integration time and at least one</u> <u>slow pixel having a second integration time, wherein the first integration time</u> <u>is longer than the second integration time and data from at least one slow pixel</u> <u>includes valid signal level information with adequate signal to noise ratio</u> <u>while data from at least one fast pixel does not contain valid signal level</u> <u>information</u>~~the integration time is different for each set of the kernels~~.

10.   (Original) The camera as in claim 9, wherein the color filter pattern is a Bayer color filter pattern.

11.   (Original) The camera as in claim 9, wherein the color filter pattern is a 2x2 kernel.

12.   (Currently amended) The camera as in claim 11, wherein ~~the~~ <u>an</u> integration time pattern is an alternating pattern of two lines at one integration time and adjacent two lines at <u>another</u> ~~a second~~ integration time.

13.   (Currently amended) The camera as in claim 11, wherein the integration time for a first set of 2x2 pixels associated with a first kernel is at a ~~first~~ <u>third</u> integration time, and the integration time of adjacent 2x2 kernels in the same set of two lines at a <u>fourth</u> ~~second~~ integration time.

14.   (Currently amended) The camera as in claim 13, wherein ~~the~~ <u>an</u> integration time pattern of adjacent two lines groups is offset by two pixels.

15.   (Cancelled)

16.   (Original) The camera as in claim 9 further comprising a mechanism that reads out at least a subset of the plurality of pixels and uses the signal values obtained from the readout to determine the integration times of the plurality of pixels.

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17.   (Original) A camera comprising:

(a) an image sensor comprising:

(b) a plurality of pixels arranged in an array of rows and columns; and

(c) a readout mechanism that provides a series of output signal values associated with a row sync signal with a number of data signal values corresponding to a number of pixels in a row or desired portion of a row; wherein the output signal values have signals that are generated from pixels within at least two physically separate rows within the array.

18.   (Previously presented) The camera as in claim 17, wherein the data values are reconstructed in a camera memory.

19.   (previously presented) The image sensor of claim 1, further comprising a signal line for each row of pixels in the array, wherein each signal line is routed to at least a portion of the pixels in two adjacent rows based on the arrangement of the color filter kernels.

20.   (previously presented) The camera of claim 9, wherein the image sensor further comprises a signal line for each row of pixels in the array, wherein each signal line is routed to at least a portion of the pixels in two adjacent rows based on the arrangement of the color filter kernels.

21.   (New) The image sensor of claim 8, further comprising a color filter pattern spanning at least a portion of the pixels, wherein the color filter pattern forms a plurality of color filter kernels having at least one color of every color in the color filter pattern in a predetermined arrangement with an identical pattern of colors in each color filter kernel, and wherein the color filter kernels are arranged in at least two different uniformly distributed sets that are correlated with the color filter pattern.

22.   (New) The image sensor of claim 21, wherein the color filter pattern is a 2x2 kernel and an integration time pattern is an alternating

pattern of two lines at one integration time and adjacent two lines at another integration time.